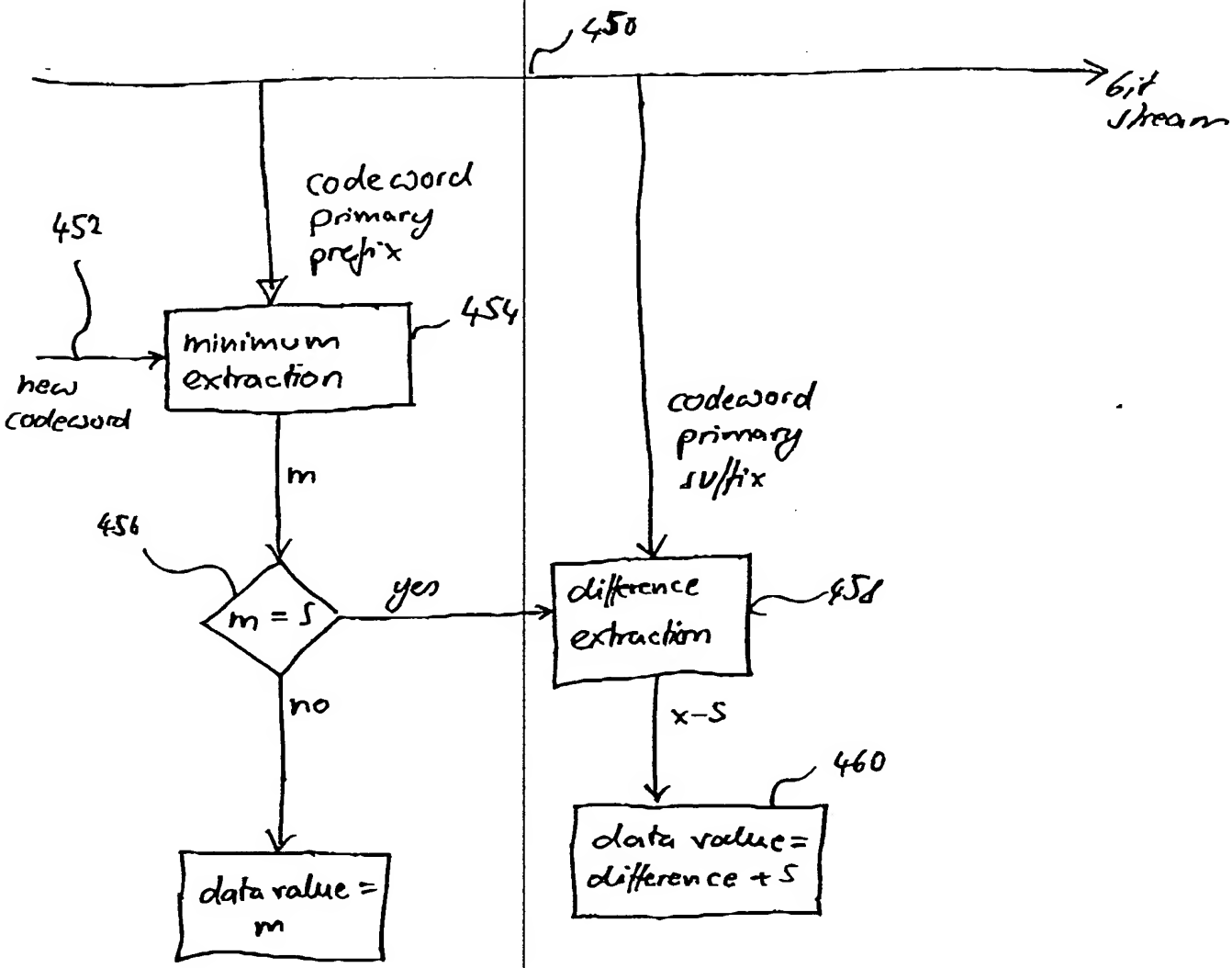

Fig. 10

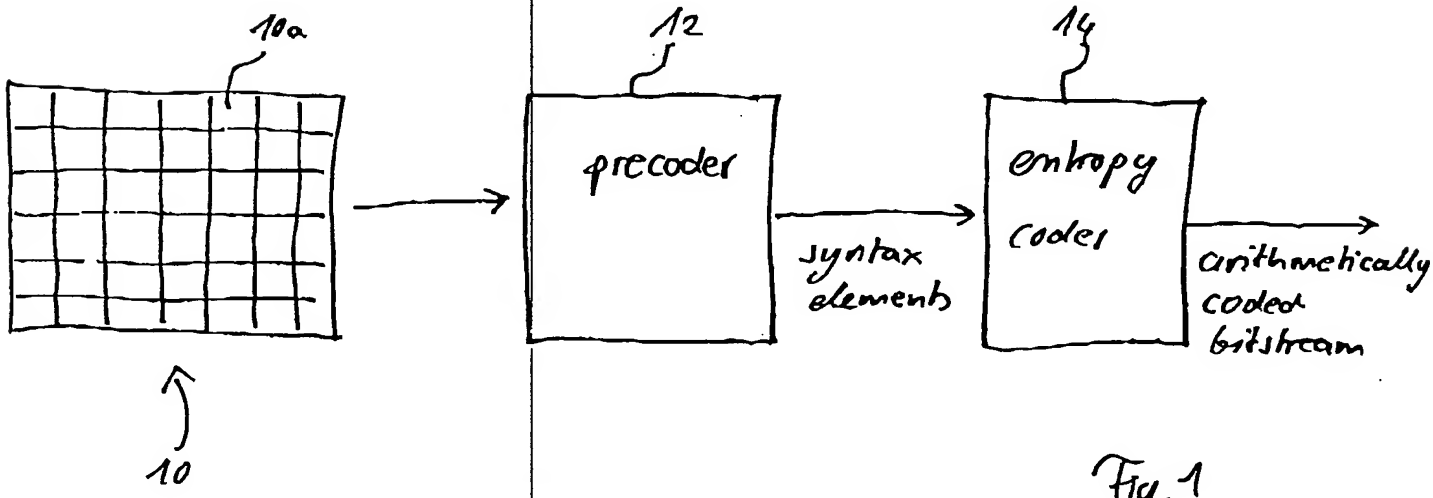

Fig. 1

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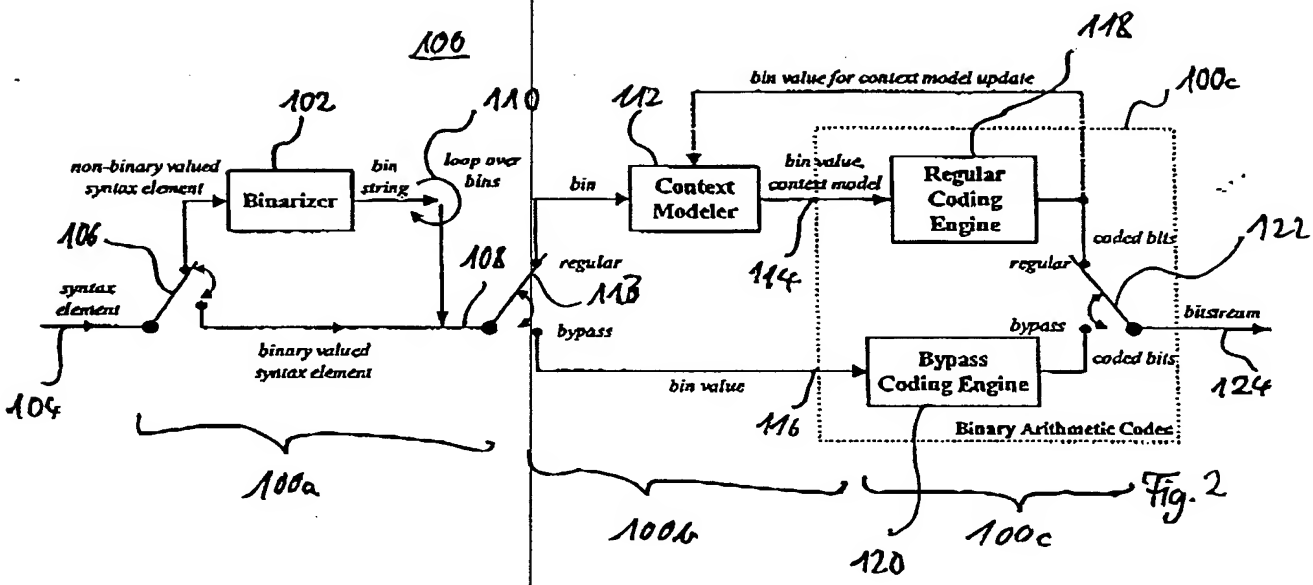

106
102
110
112
118
100c
non-binary valued syntax element
Binarizer
bin string
loop over bins
bin
Context Modeler
bin value for context model update
bin value, context model
Regular Coding Engine
coded bits
122
106
108
regular
114
regular
syntax element
bypass
bypass
bitstream
binary valued syntax element
Bypass Coding Engine
coded bits
124
104
bin value
116
Binary Arithmetic Codes
100a
100b
120
100c

Fig. 2

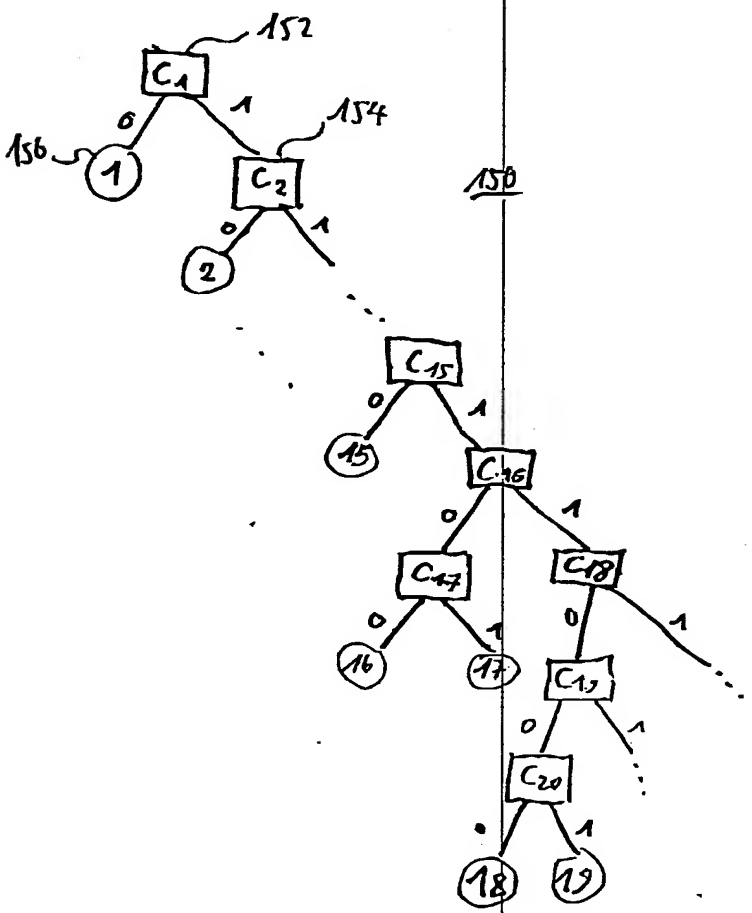

152
C1
0
1
154
156
1
C2
150
0
1
2
C15
0
1
15
C16
0
1
C17
C18
0
1
0
1
16
17
C19
0
1
C20
0
1
18
19

Fig. 3

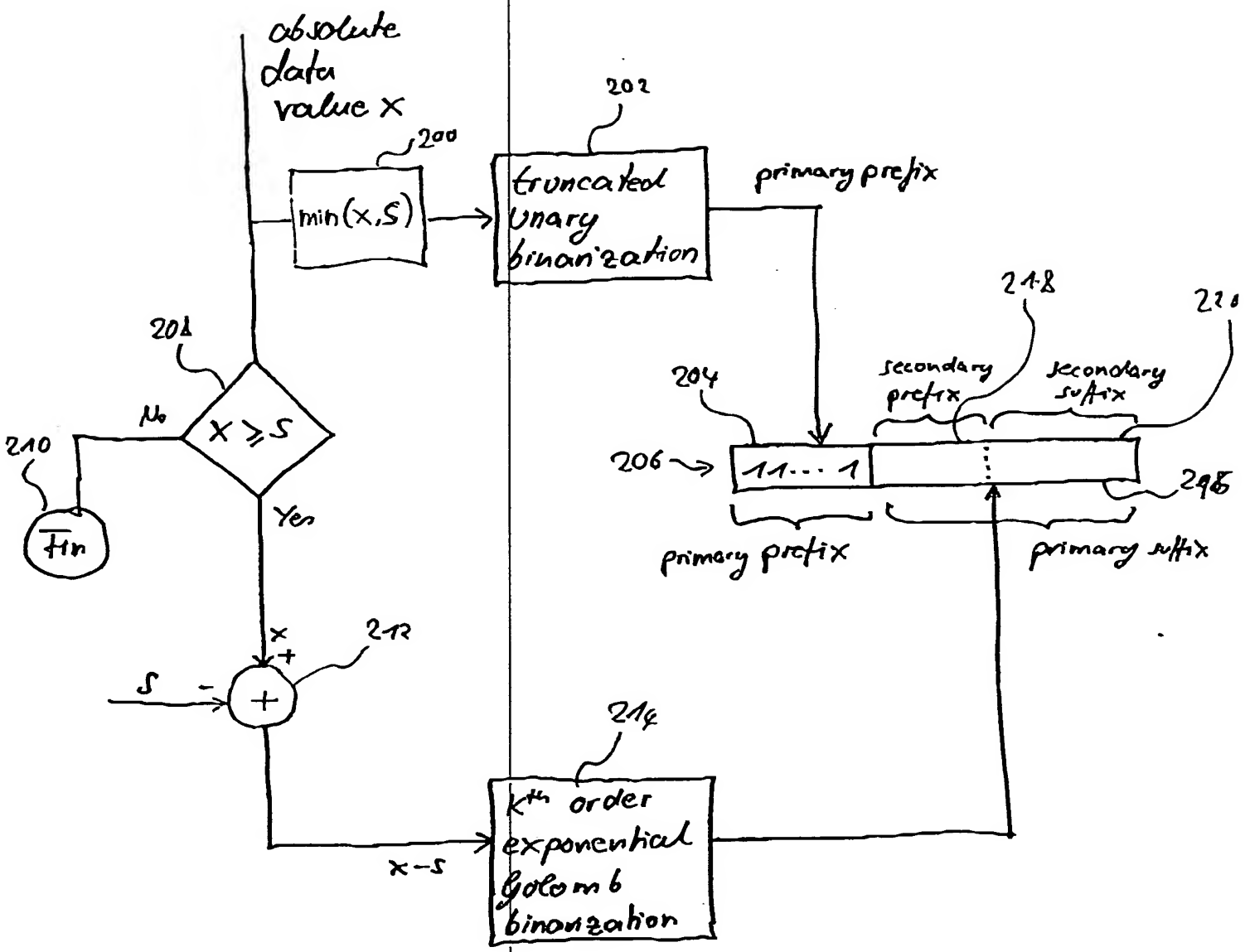

absolute data value X
200
min(X,S)
202
truncated unary binarization
primary prefix
201
X ≥ S
No
Yes
210
Fin
218
220
secondary prefix
secondary suffix
204
206
11... 1
295
primary prefix
primary suffix
212
X
+
S
-
214
k^th order exponential Golomb binarization
X-S

Fig. 4

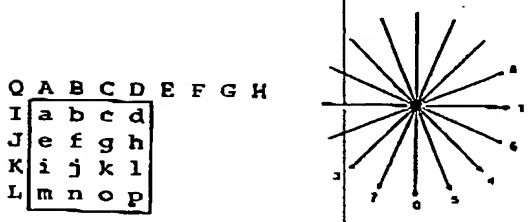
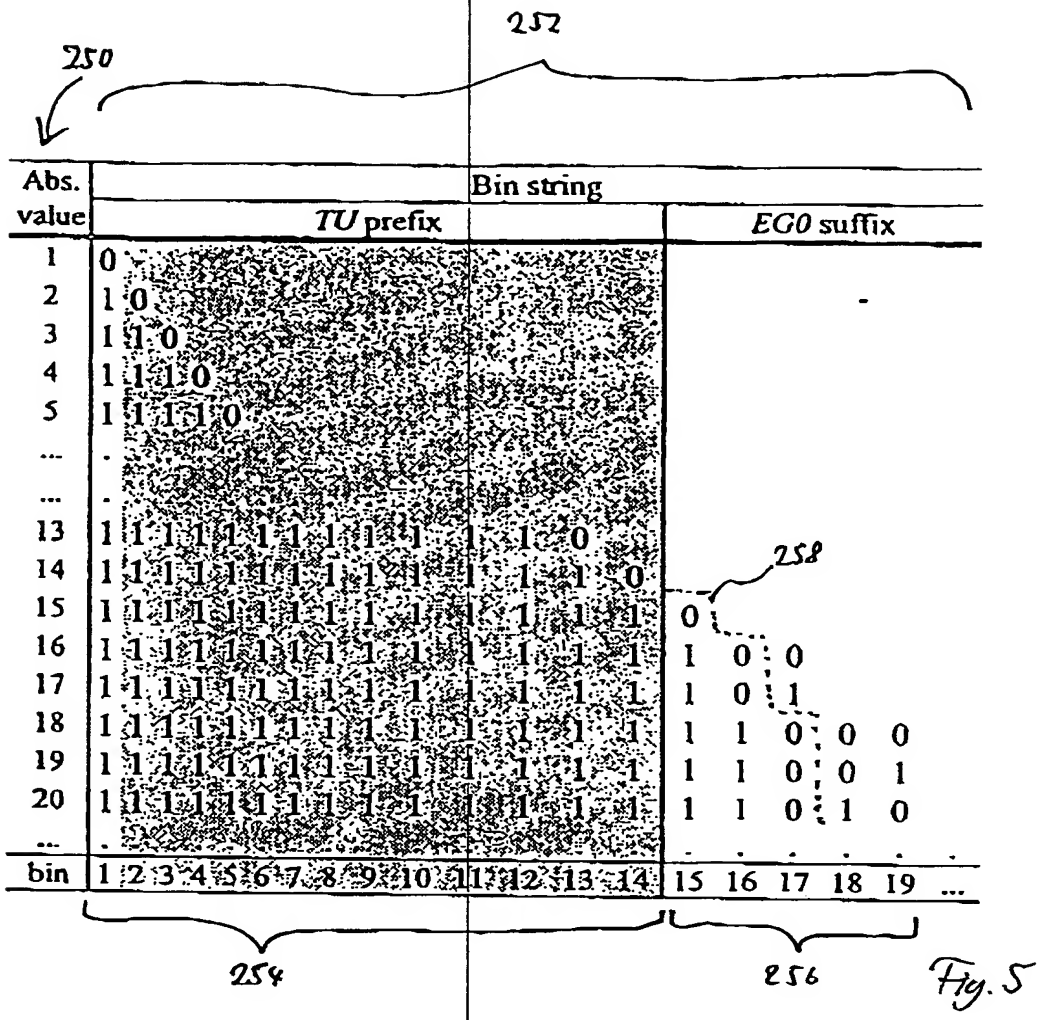

Q A B C D E F G H
I a b c d
J e f g h
K i j k l
L m n o p

Fig. 15



Abs. value	TU prefix													EG0 suffix					
1	0																		
2	1	0																	
3	1	1	0																
4	1	1	1	0															
5	1	1	1	1	0														
...	.																		
...	.																		
13	1	1	1	1	1	1	1	1	1	1	1	1	0						
14	1	1	1	1	1	1	1	1	1	1	1	1	1	0					
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0				
16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0			
17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1			
18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0		
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1		
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0		
...	.													.	.	.	.	.	.
bin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	...

Fig. 5

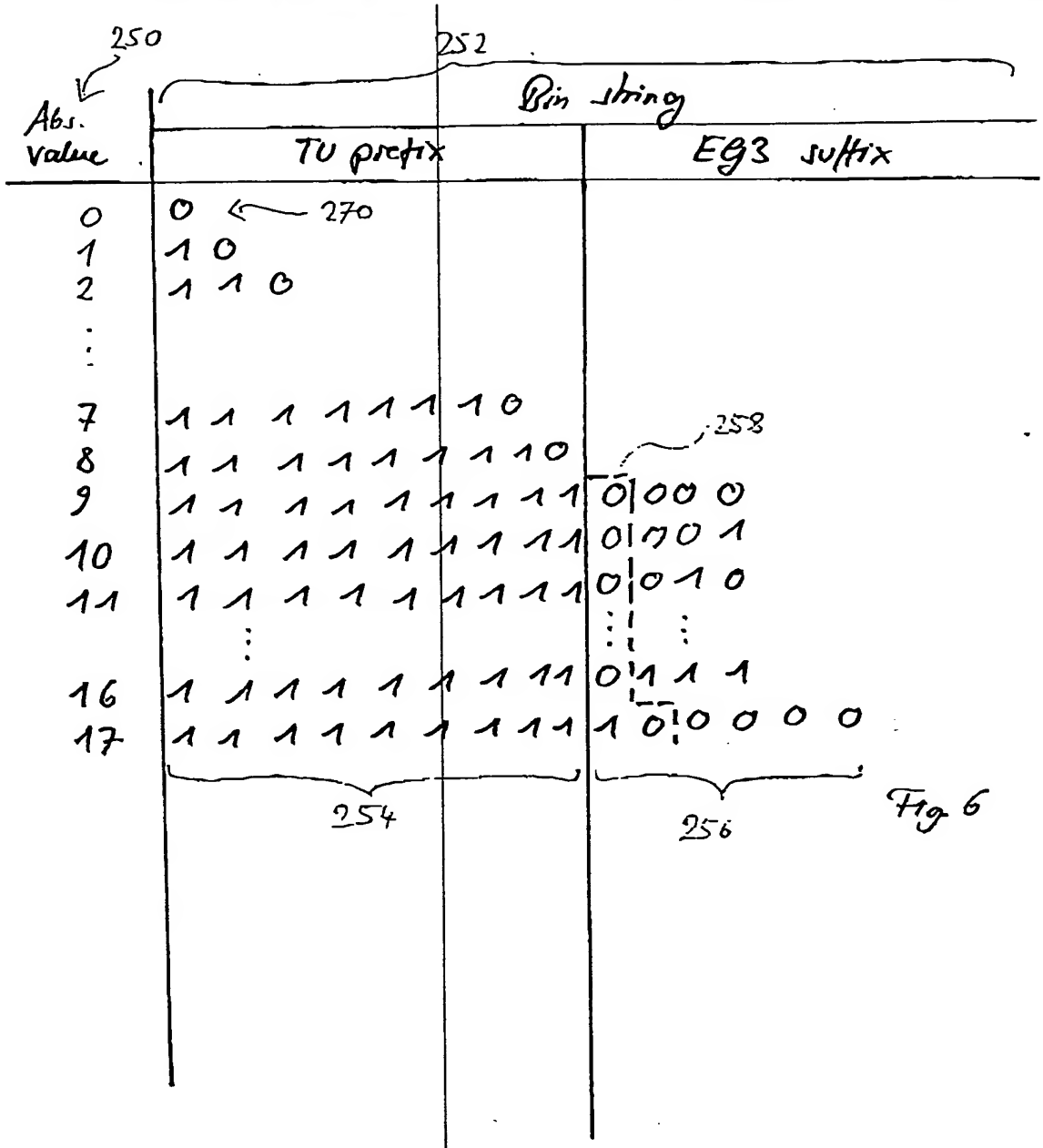

250
252
Bin string
Abs. value
TU prefix
EG3 suffix
270
258
0
1
2
7
8
9
10
11
16
17
254
256

Fig 6

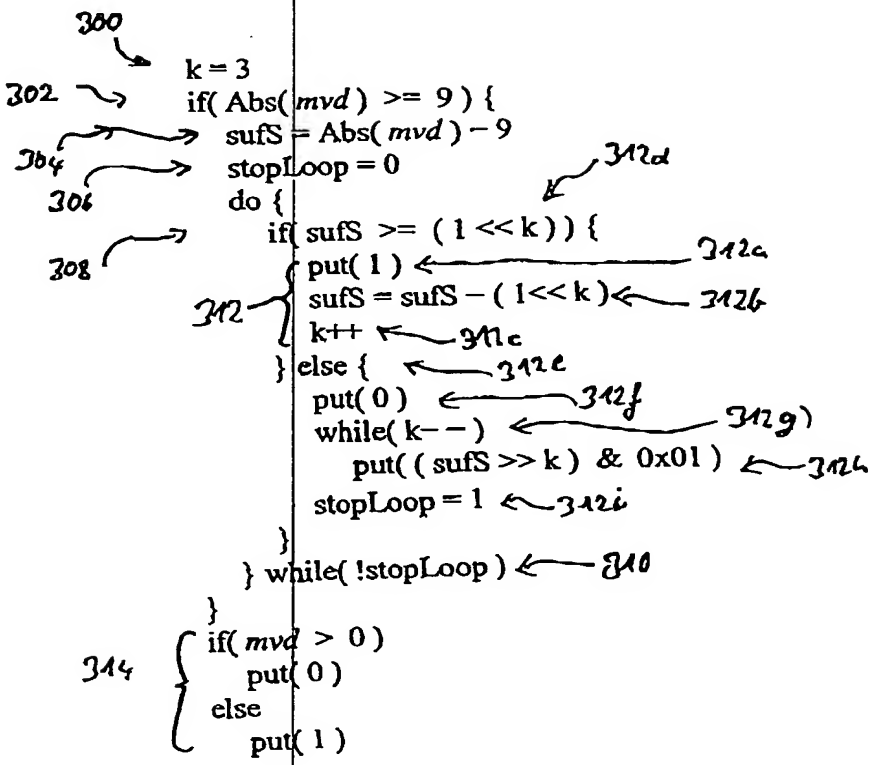

300
k = 3
302
if(Abs(mvd) >= 9) {
304
sufS = Abs(mvd) - 9
306
stopLoop = 0
312d
do {
308
if(sufS >= (1 << k)) {
312a
put(1)
312
312b
sufS = sufS - (1<< k)
312c
k++
} else {
312e
put(0)
312f
while(k--)
312g
put((sufS >> k) & 0x01)
312h
stopLoop = 1
312i
}
} while(!stopLoop)
310
}
314
if(mvd > 0)
put(0)
else
put(1)

Fig.7

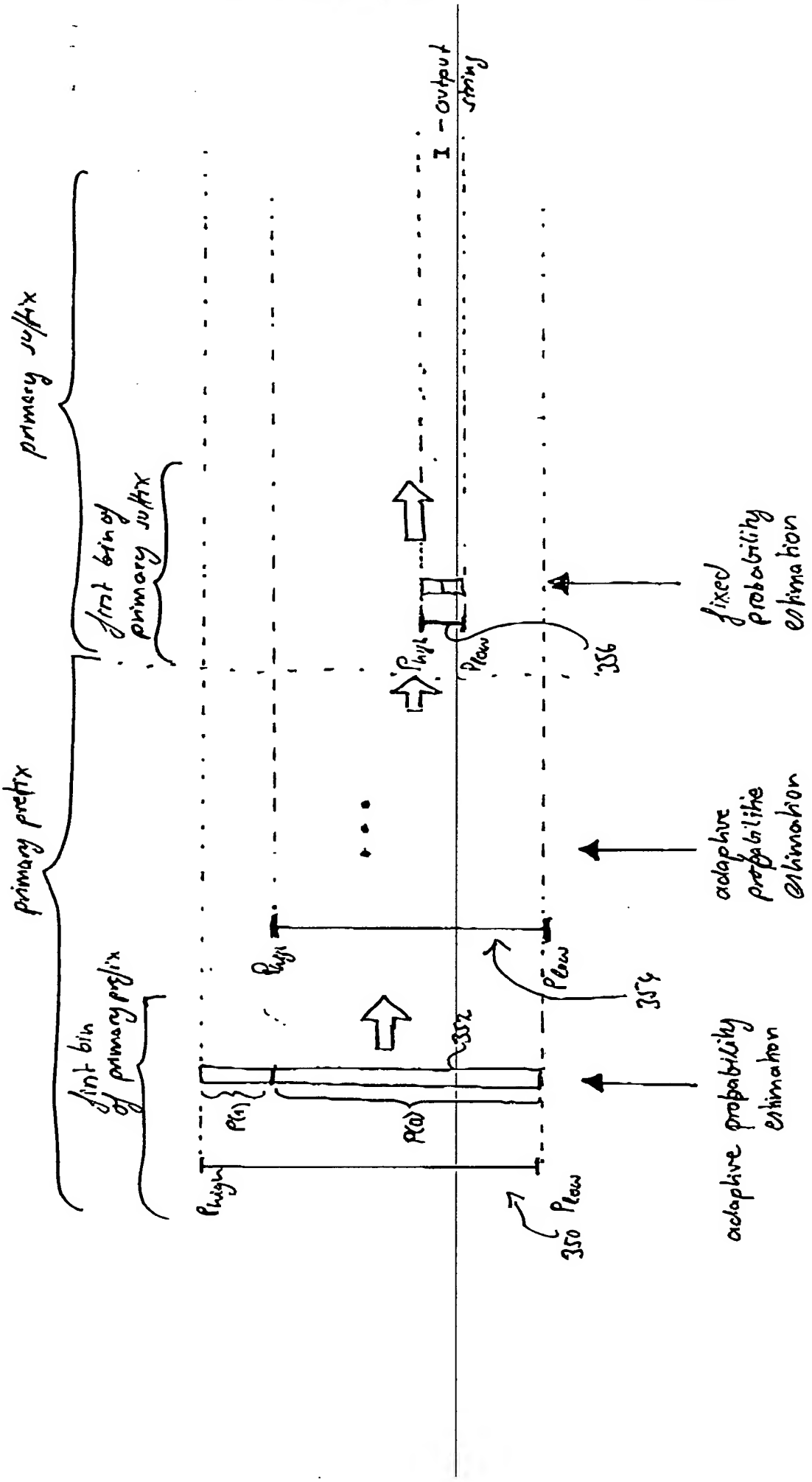

primary suffix
first bin of primary suffix
primary prefix
first bin of primary prefix
P(1)
P(0)
P_high
P_low
332
350
354
356
adaptive probability estimation
adaptive probability estimation
fixed probability estimation
I - output

Fig. 8

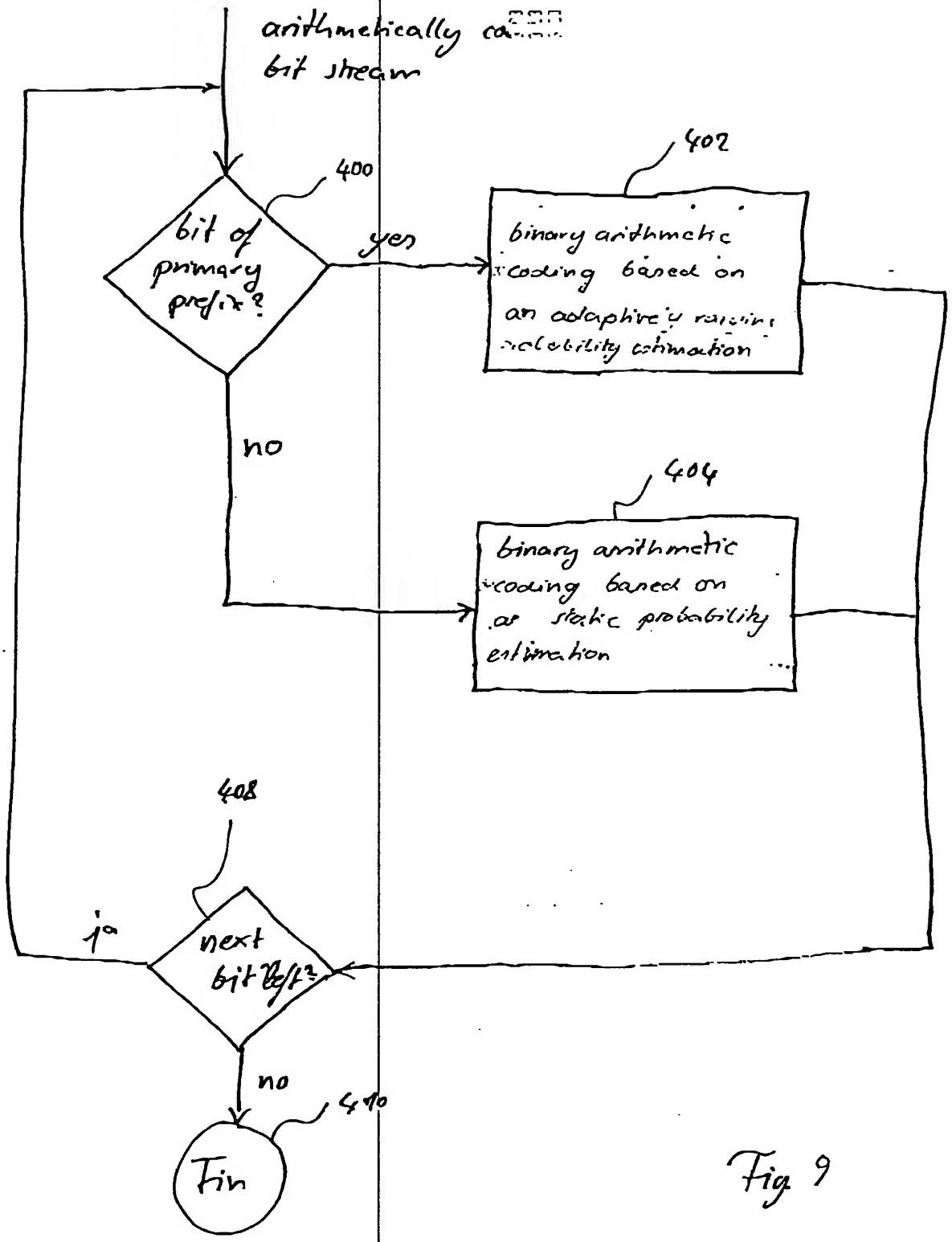

arithmetically
bit stream
400
bit of primary prefix?
yes
402
binary arithmetic coding based on an adaptive probability estimation
no
404
binary arithmetic coding based on a static probability estimation
408
ja
next bit left?
no
410
Fin

Fig 9

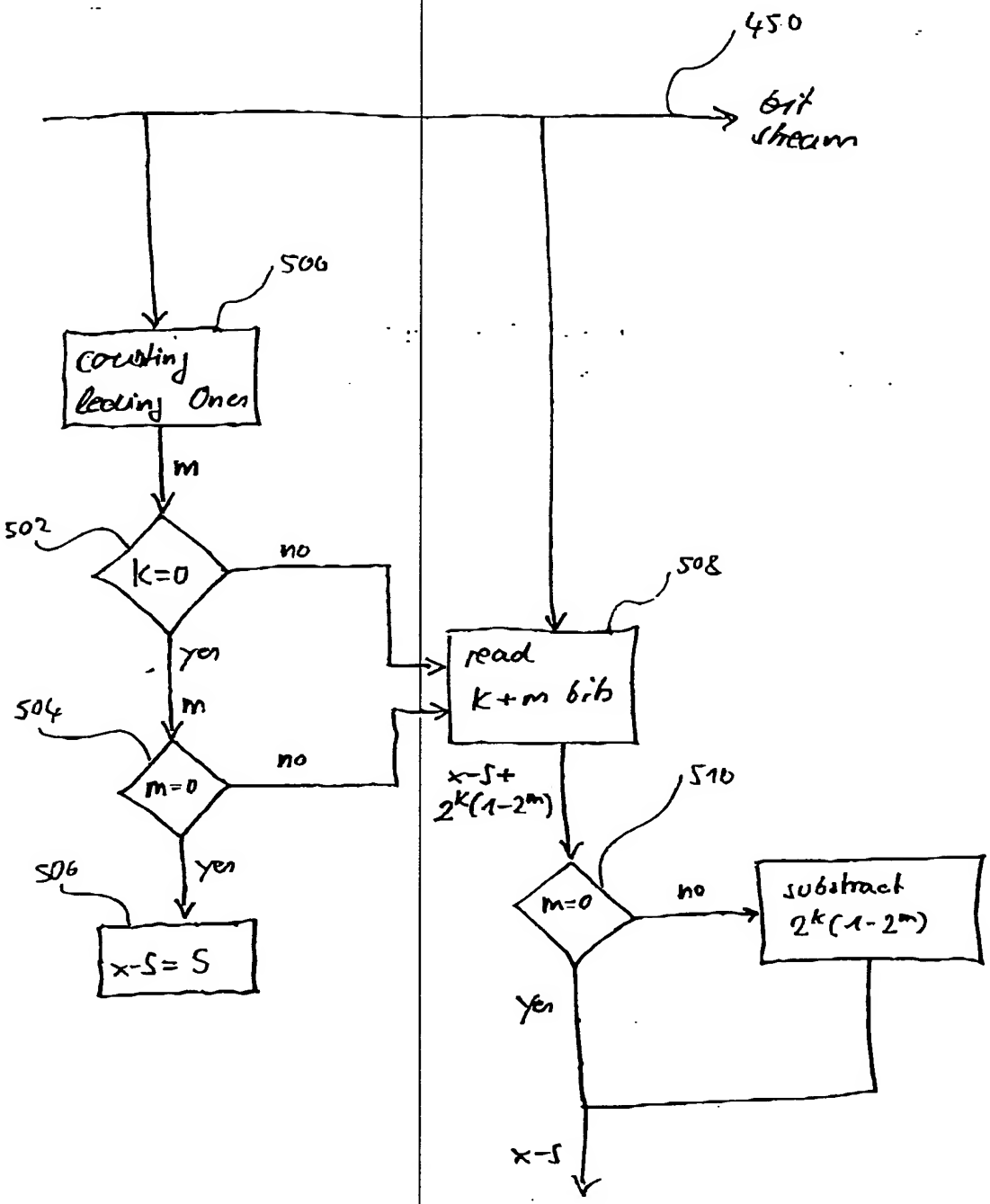

450
bit stream
506
counting leading Ones
m
502
k=0
no
yes
m
504
m=0
no
yes
506
x-S= S
508
read k+m bit
x-S+ 2^k(1-2^m)
510
m=0
no
substract 2^k(1-2^m)
yes
x-S

Fig. 11

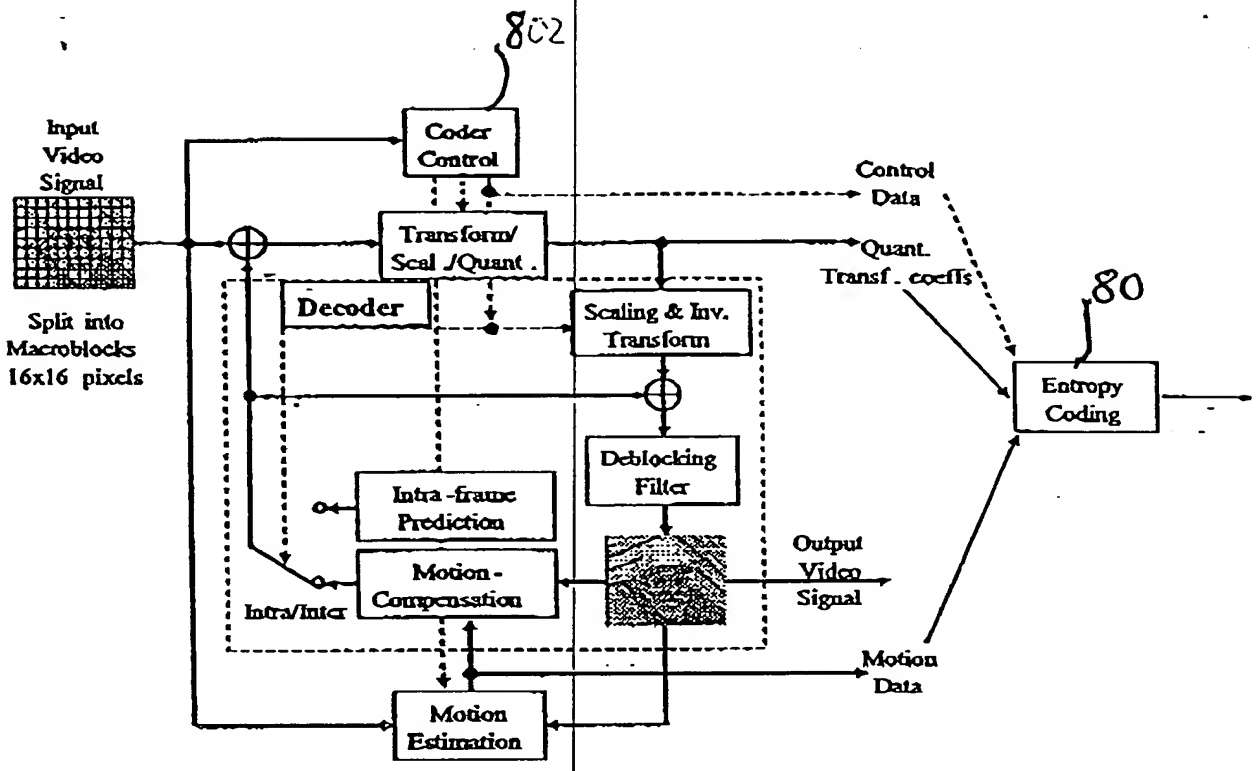


Fig. 12

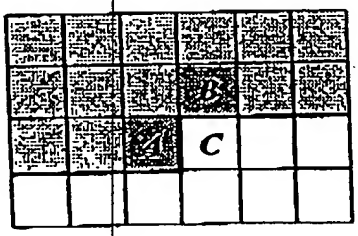


Fig. 13

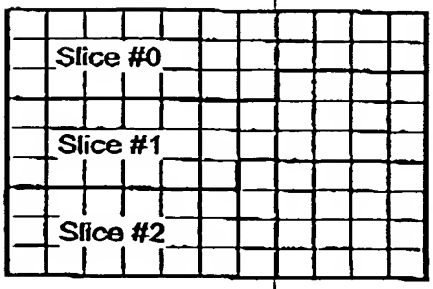


Fig. 14

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